We claim:

1. A method of making a gas diffusion layer for an electrochemical cell comprising the steps of:

a) providing a plain-weave carbon fiber cloth;

b) coating a surface of said plain-weave carbon fiber cloth with a layer comprising carbon particles and one or more highly fluorinated polymers to make a coated plain-weave carbon fiber cloth; and

c) compressing said coated plain-weave carbon fiber cloth to a compression of 25% or greater; wherein said step of compressing does not include attaching said plain-weave carbon fiber cloth to another layer.

2. The method according to claim 1 wherein said step of compressing said coated plain-weave carbon fiber cloth comprises compressing said coated plain-weave carbon fiber cloth to a compression of 28% or greater.

3. The method according to claim 1 wherein said step of compressing said coated plain-weave carbon fiber cloth comprises compressing said coated plain-weave carbon fiber cloth to a compression of 40% or greater.

4. A gas diffusion layer for an electrochemical cell made according to the method of claim 1.

5. A gas diffusion layer for an electrochemical cell made according to the method of claim 3.

6. A membrane electrode assembly (MEA) comprising a gas diffusion layer made according to the method of claim 1 and a polymer electrolyte membrane (PEM) having a thickness of 50 microns or less.

7. A membrane electrode assembly (MEA) comprising a gas diffusion layer made according to the method of claim 3 and a polymer electrolyte membrane (PEM) having a thickness of 50 microns or less.

8. A membrane electrode assembly (MEA) comprising a gas diffusion layer made according to the method of claim 1 and a polymer electrolyte membrane (PEM) having a thickness of 35 microns or less.

9. A membrane electrode assembly (MEA) comprising a gas diffusion layer made according to the method of claim 3 and a polymer electrolyte membrane (PEM) having a thickness of 35 microns or less.

10. A membrane electrode assembly (MEA) according to claim 7 having an electrical area resistance of 400 ohm*cm^2 or greater when compressed to 25% compression.

11. A membrane electrode assembly (MEA) according to claim 7 having an electrical area resistance of 400 ohm*cm^2 or greater when compressed to 40% compression.

12. A membrane electrode assembly (MEA) according to claim 9 having an electrical area resistance of 400 ohm*cm^2 or greater when compressed to 25% compression.

13. A membrane electrode assembly (MEA) according to claim 9 having an electrical area resistance of 400 ohm*cm^2 or greater when compressed to 40% compression.

14. A membrane electrode assembly (MEA) comprising a gas diffusion layer that comprises a plain-weave carbon fiber cloth and comprising a polymer electrolyte membrane (PEM) having a thickness of 50 microns or less, wherein said membrane

electrode assembly (MEA) has an electrical area resistance of 400 ohm*cm^2 or greater when compressed to 25% compression.

15. The membrane electrode assembly (MEA) according to claim 14 having an electrical area resistance of 400 ohm*cm^2 or greater when compressed to 40% compression.

16. The membrane electrode assembly (MEA) according to claim 14 comprising a polymer electrolyte membrane (PEM) having a thickness of 35 microns or less.

17. The membrane electrode assembly (MEA) according to claim 15 comprising a polymer electrolyte membrane (PEM) having a thickness of 35 microns or less.